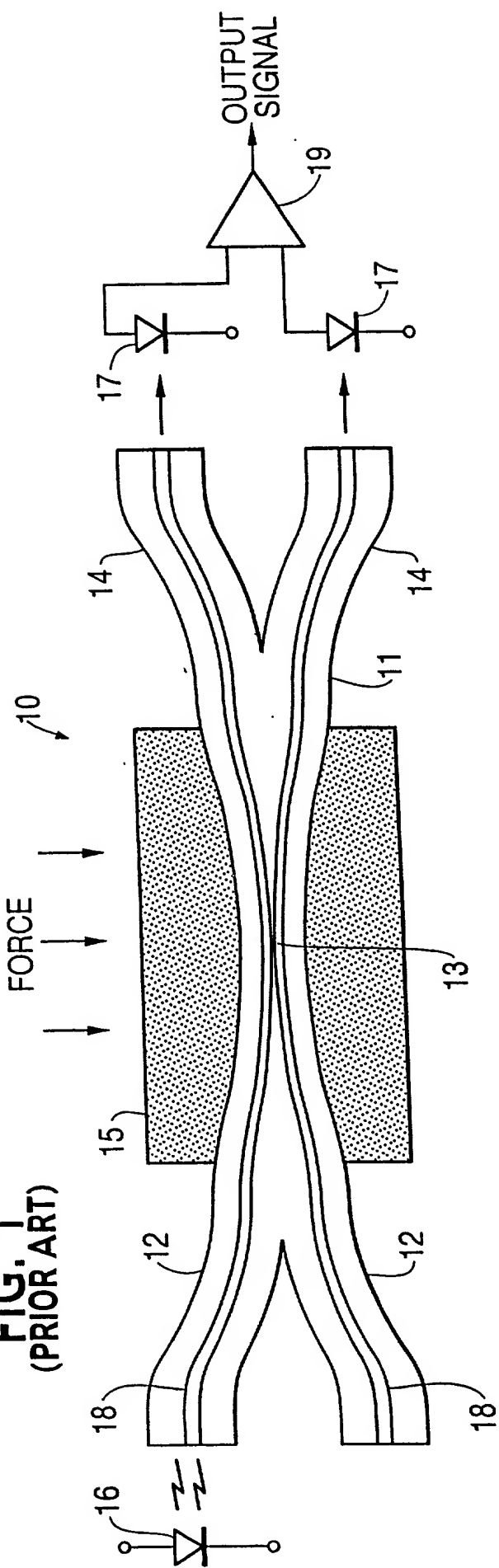
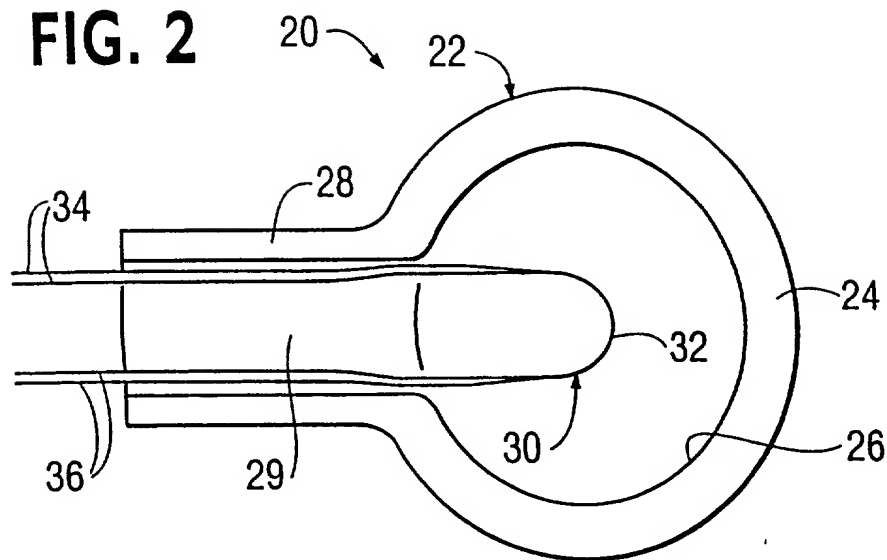


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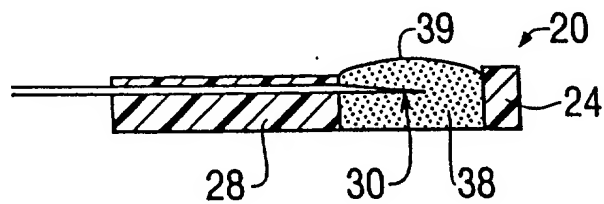
FIG. 1  
(PRIOR ART)



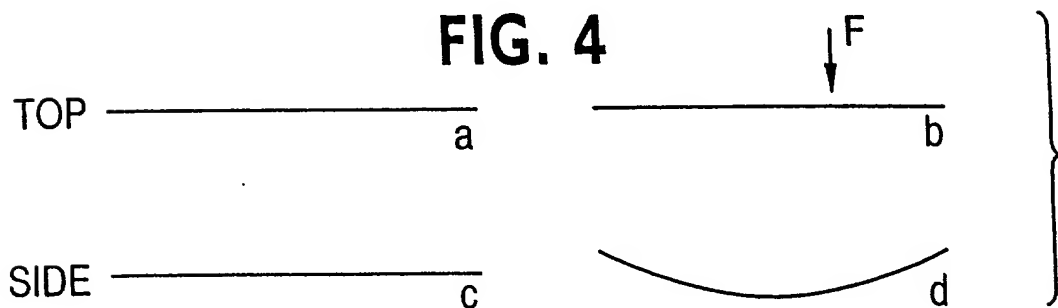
**FIG. 2**



**FIG. 3**



**FIG. 4**



**FIG. 5**

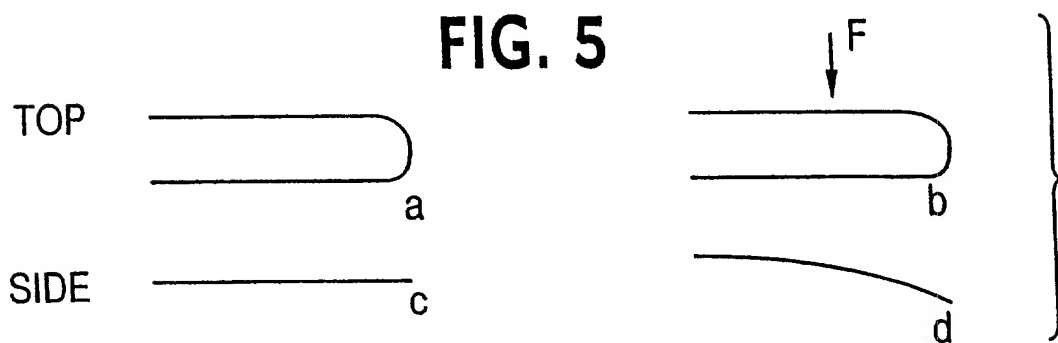


FIG. 6

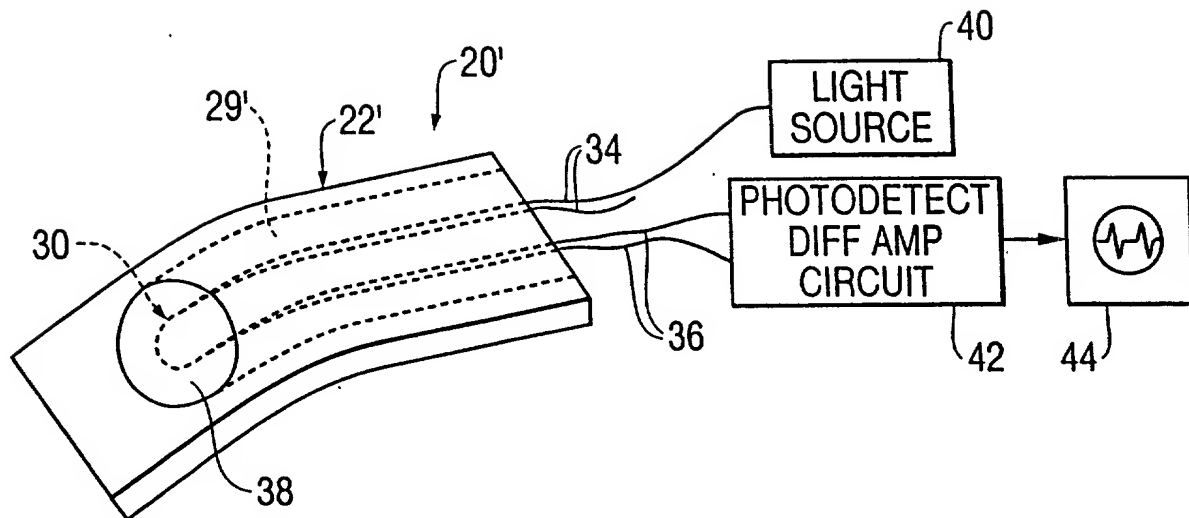
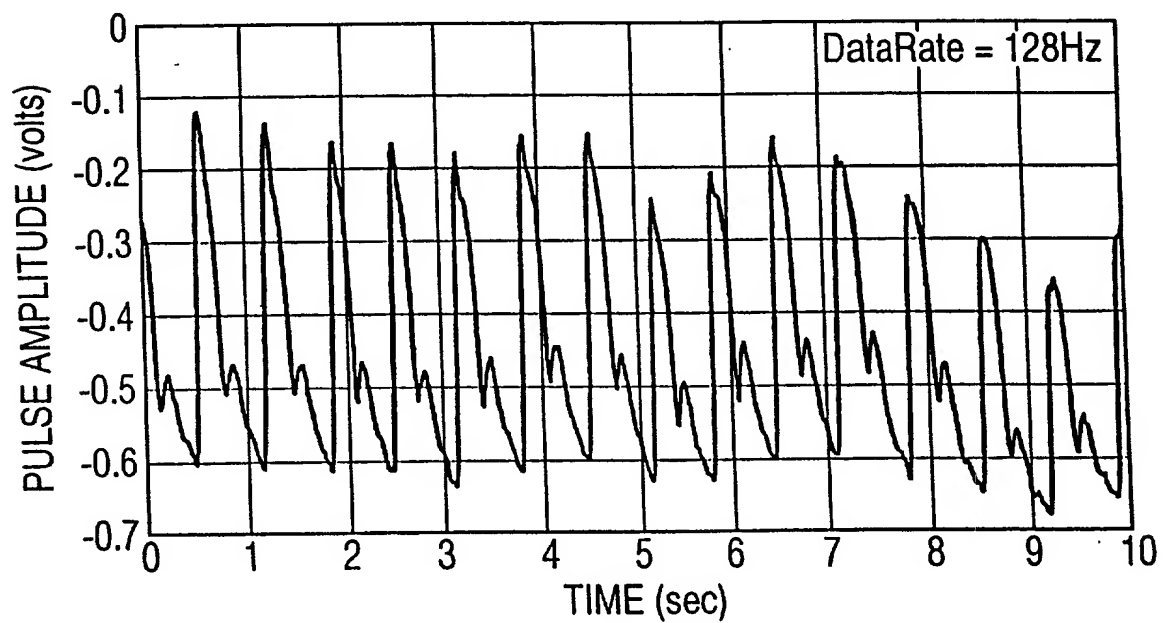
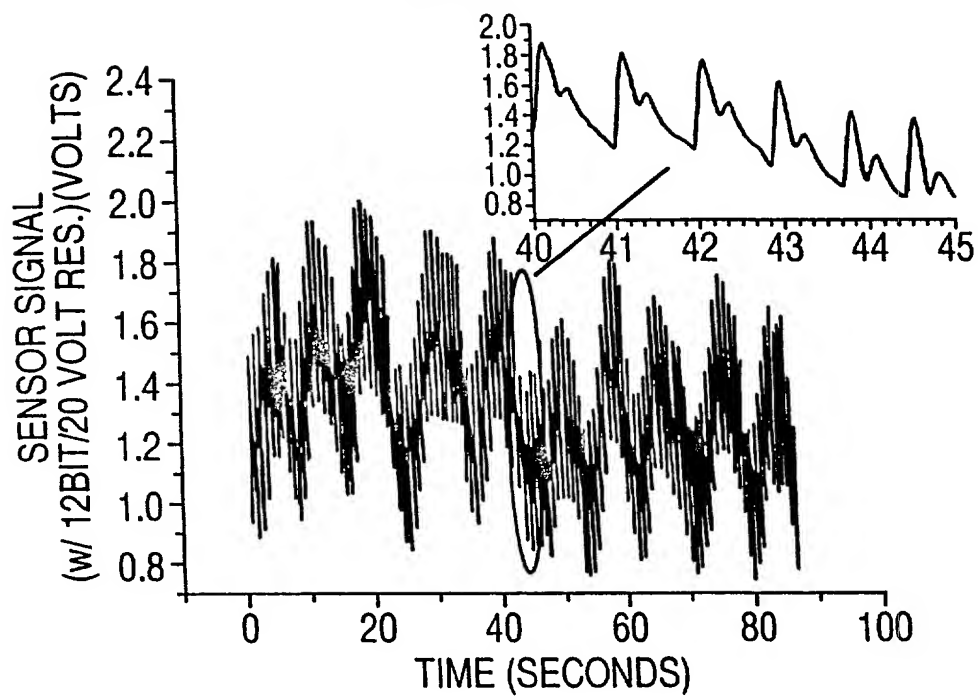


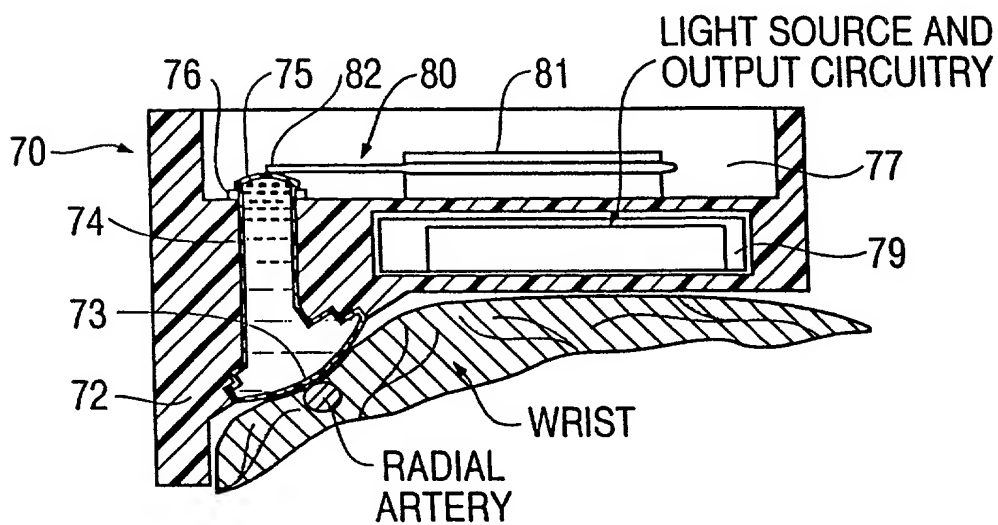
FIG. 7



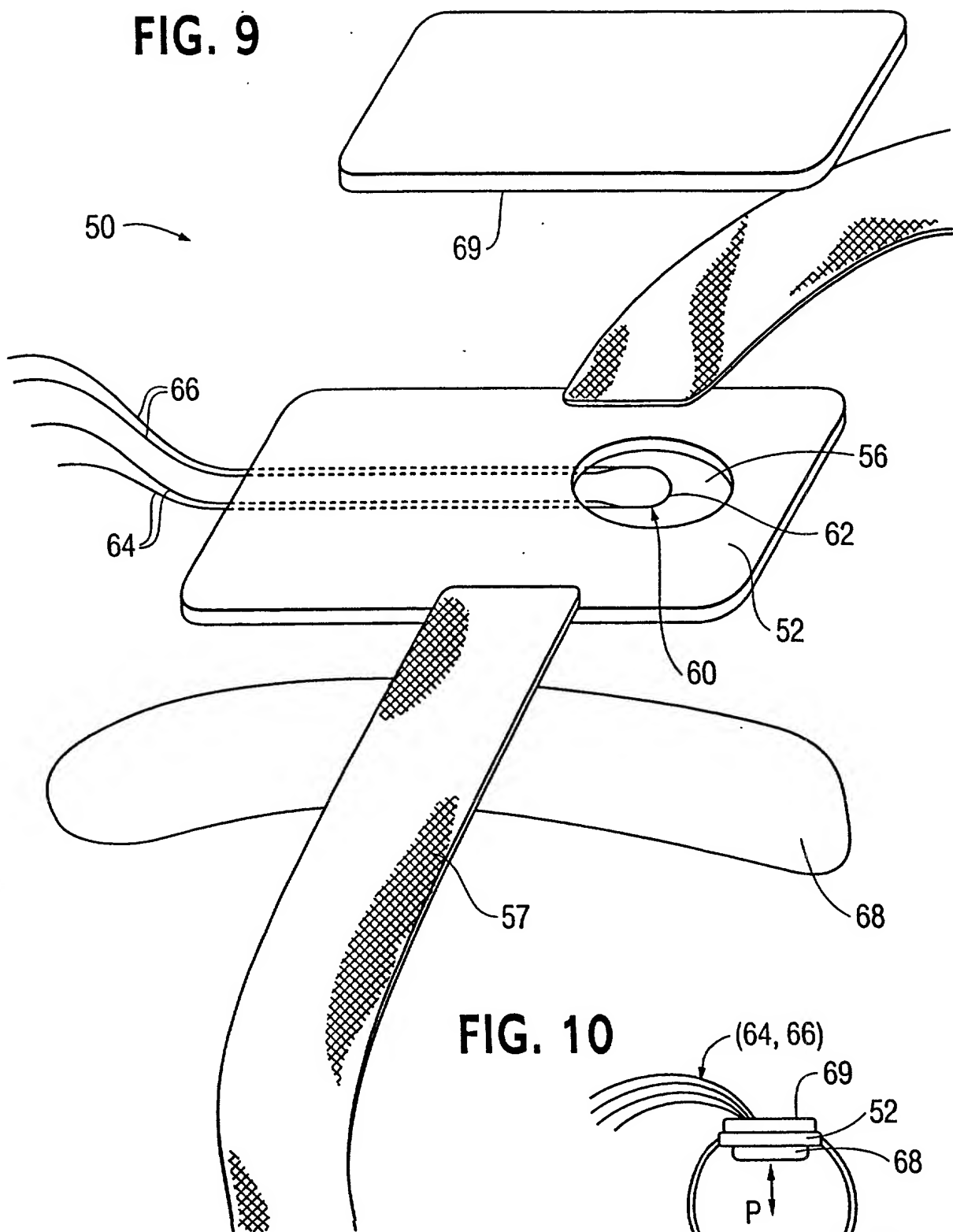
**FIG. 8**



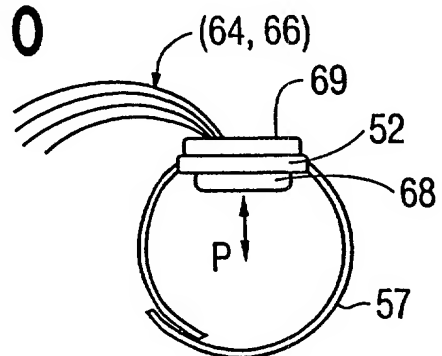
**FIG. 11**



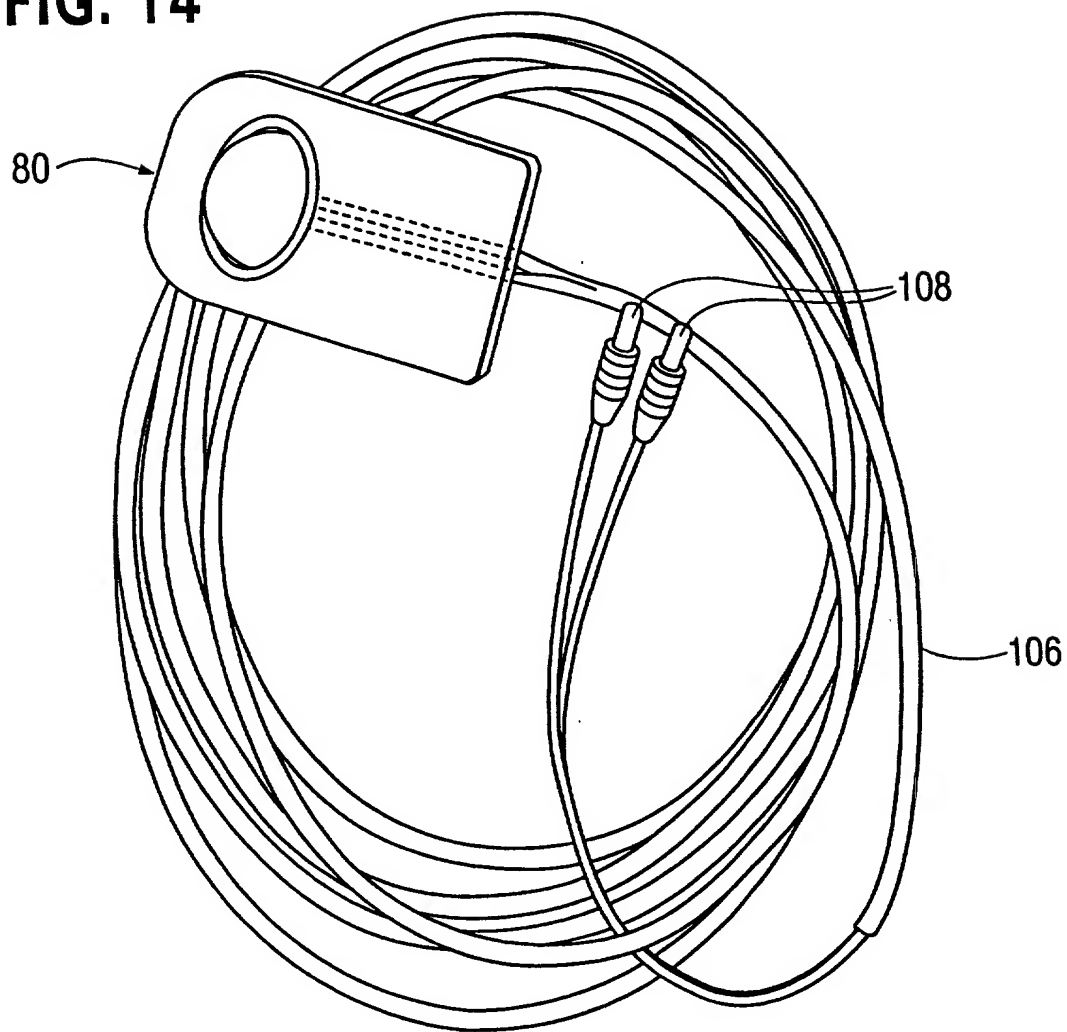
**FIG. 9**



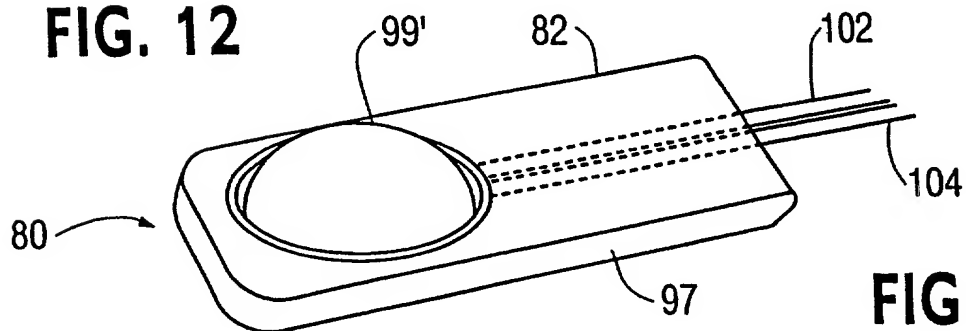
**FIG. 10**



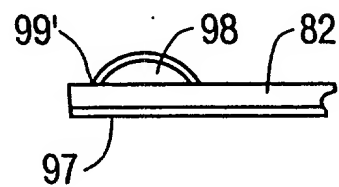
**FIG. 14**



**FIG. 12**



**FIG. 13**



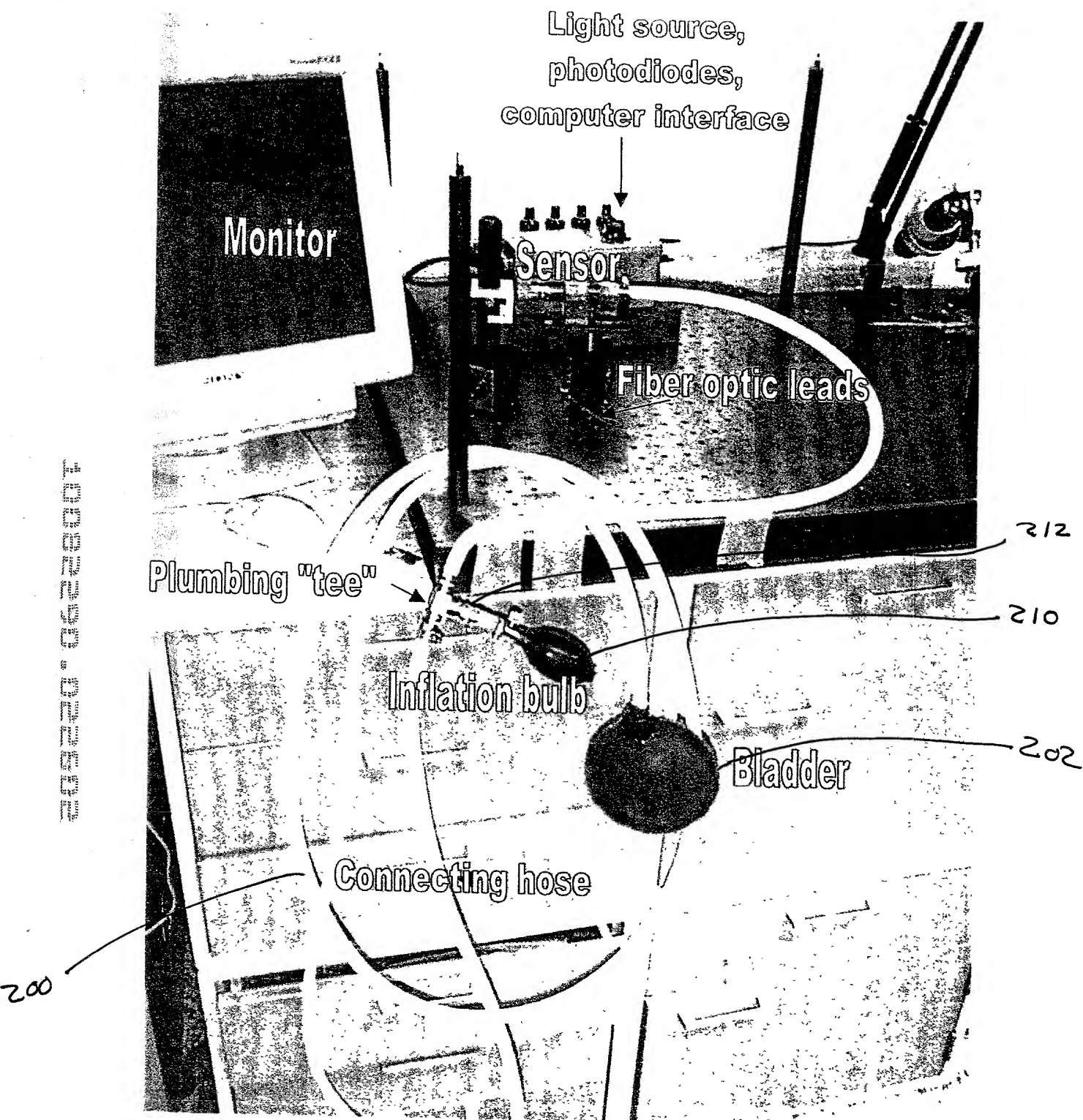


Figure 1 Complete system showing component parts

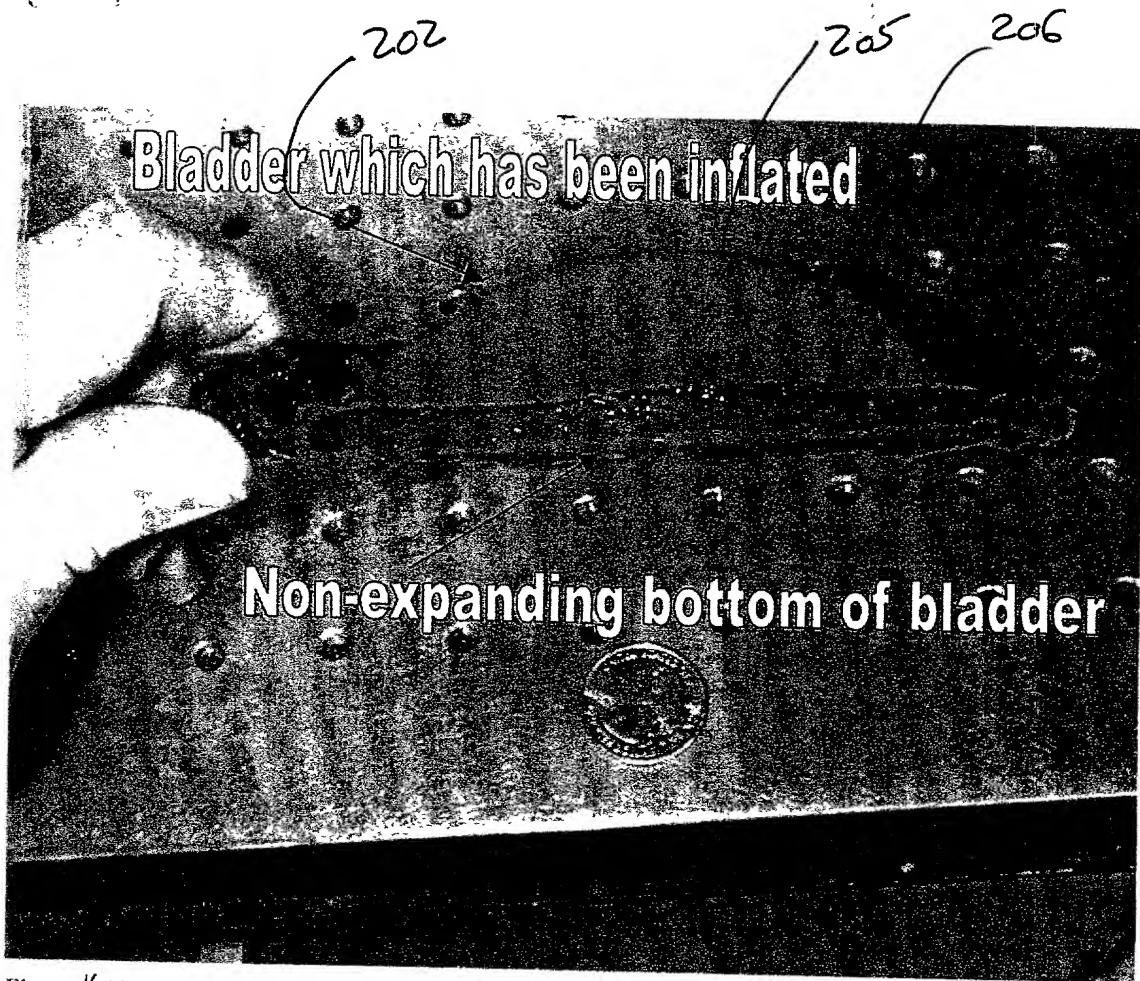


Figure 16 Side view of bladder

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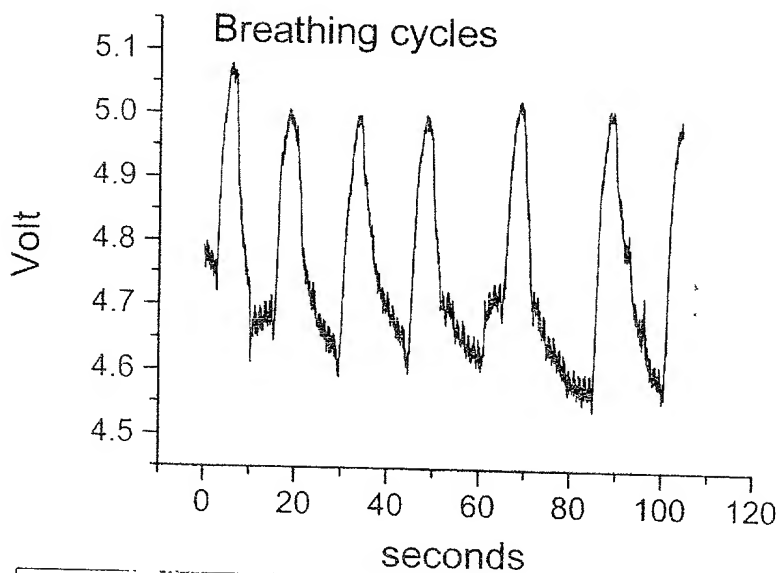
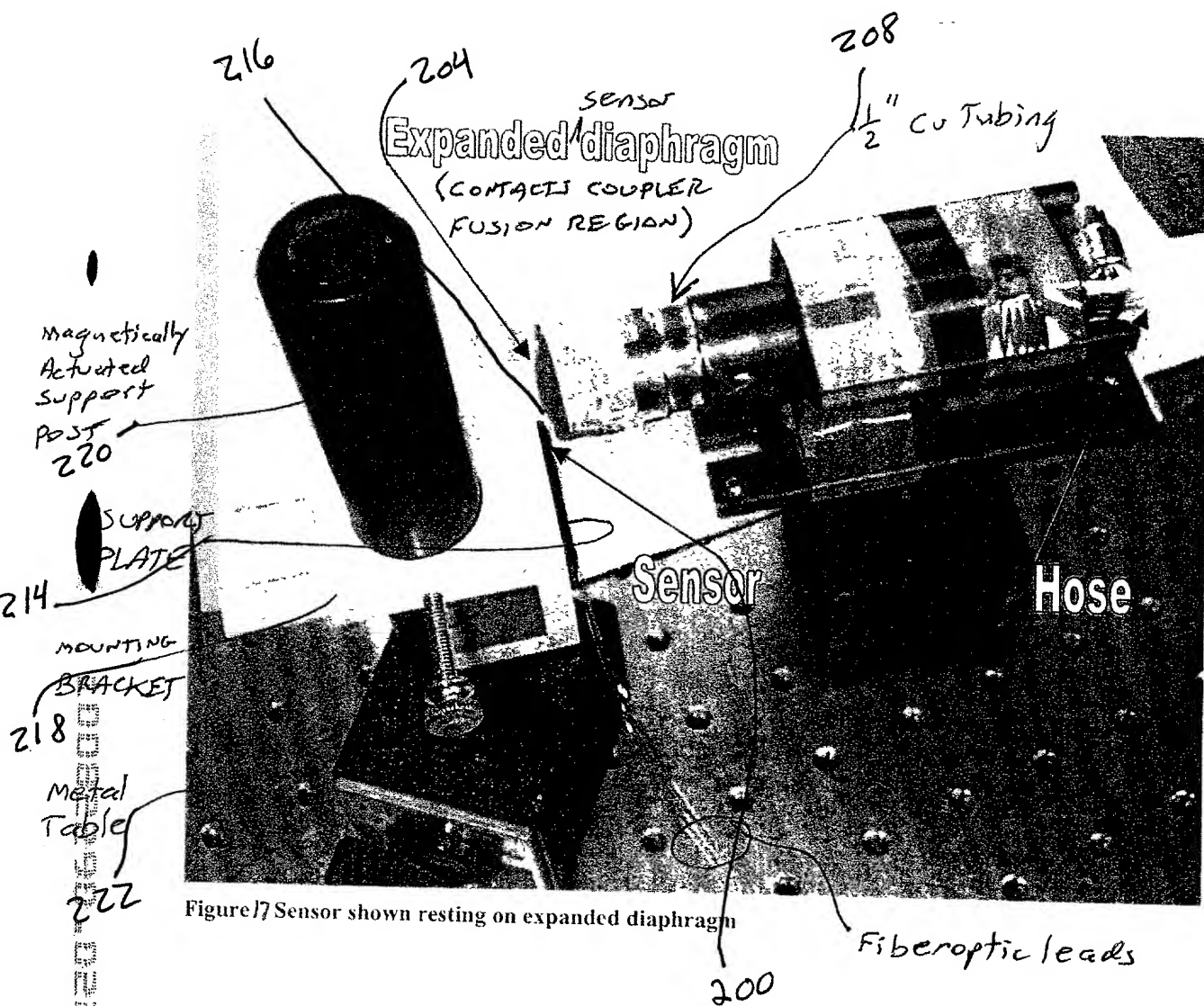


Figure 19 Heartbeat cycles showing regular breathing

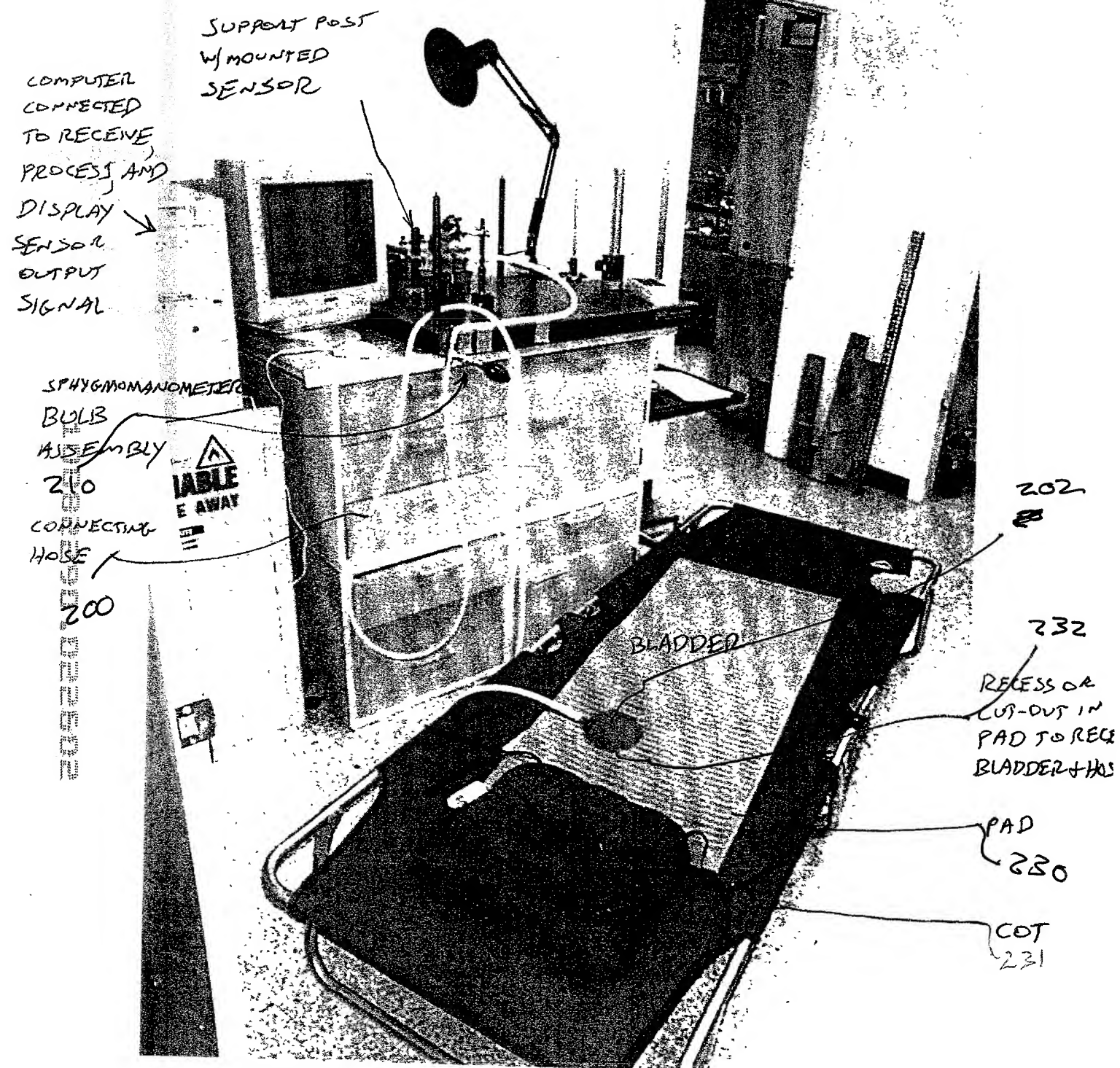


Figure 1B View of cot and bladder

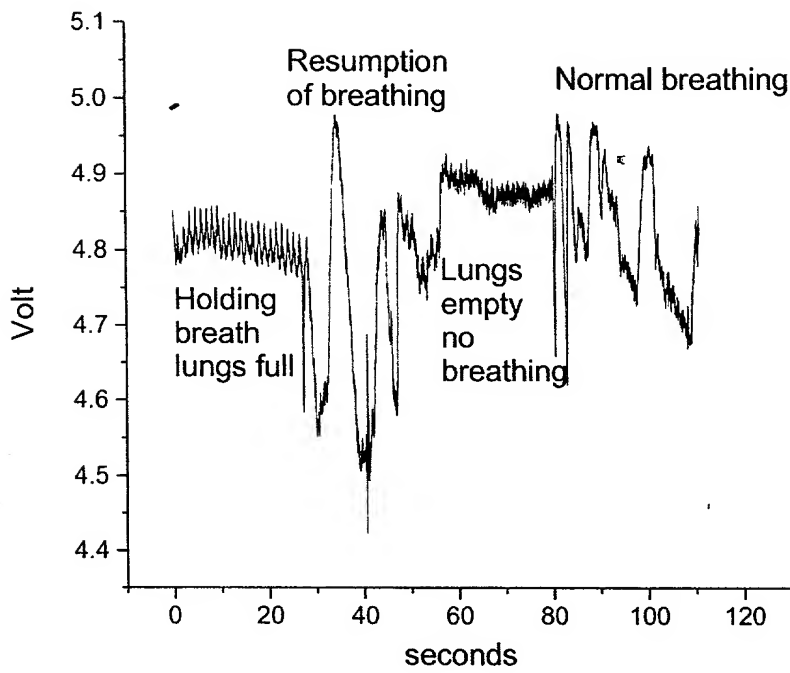


Figure 20 Various breathing patterns

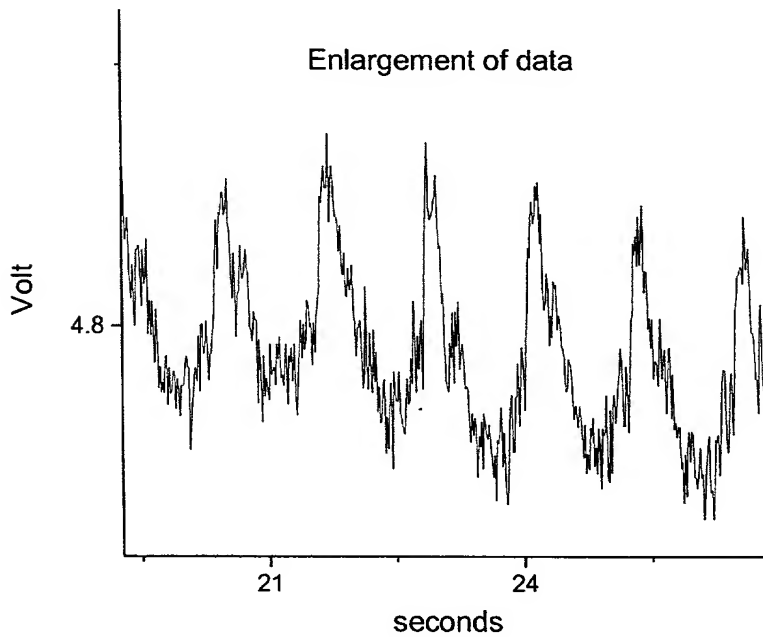


Figure 21 Heartbeat pattern showing through data in figure 20. Time scales correspond.

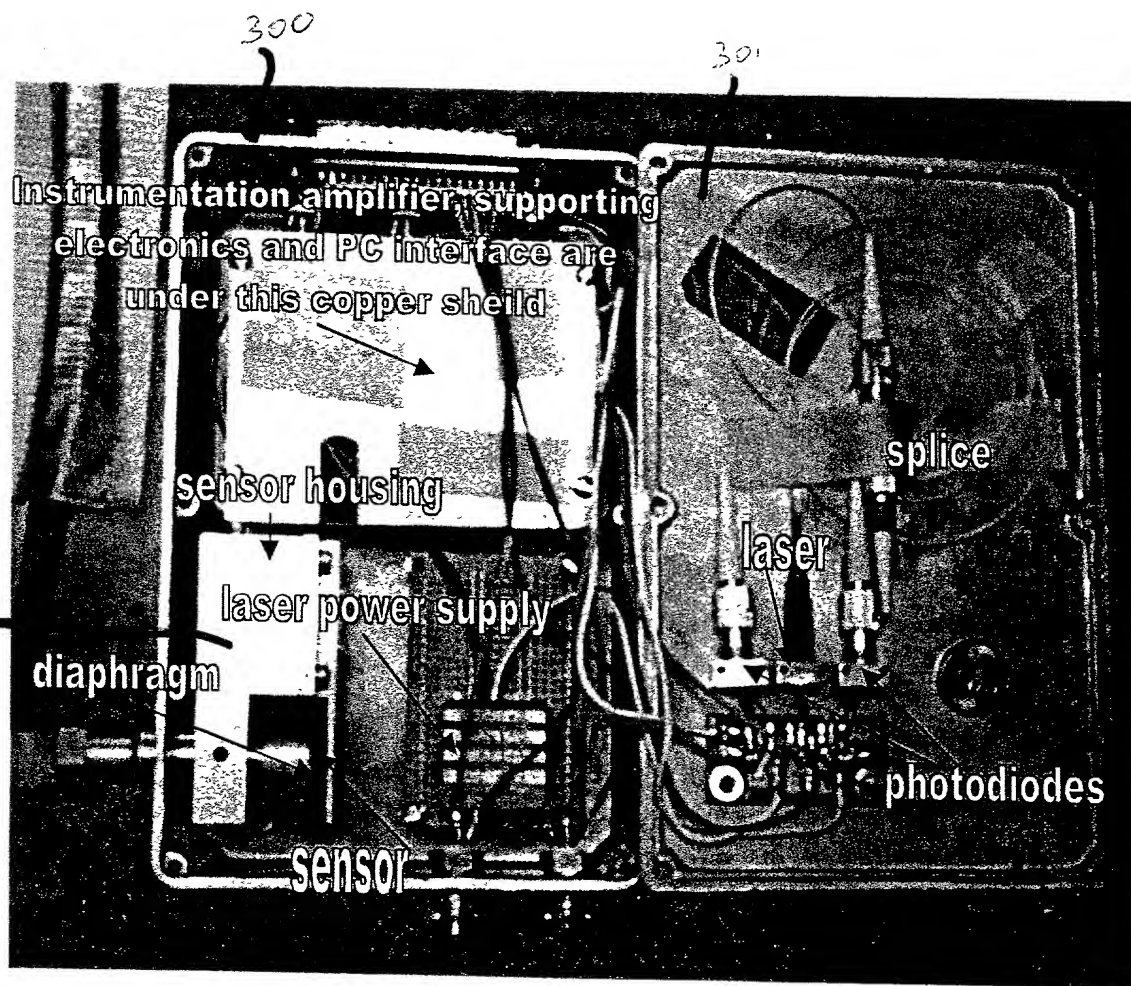


Figure 22 The system box including mounted sensor, laser, photodiodes, instrumentation amplifier, and computer interface

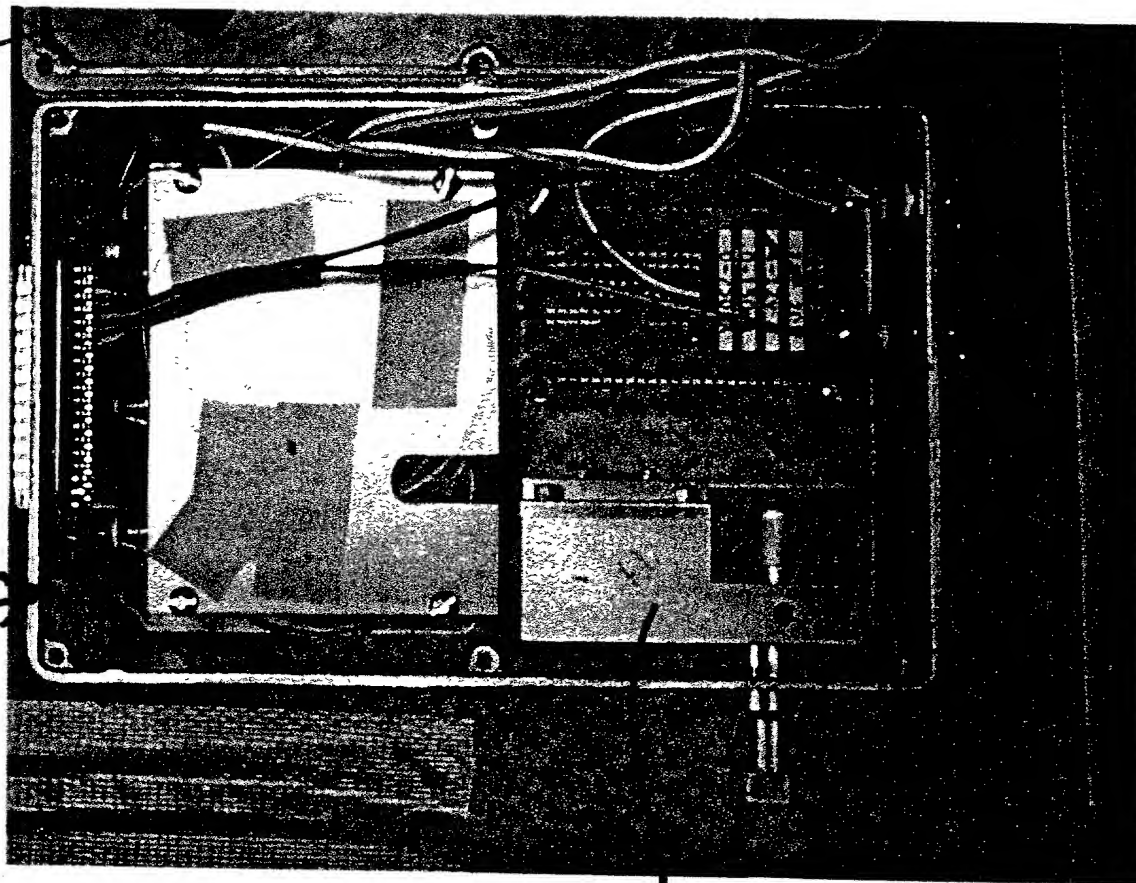


Figure 23 Close up view of box shown in figure 22.

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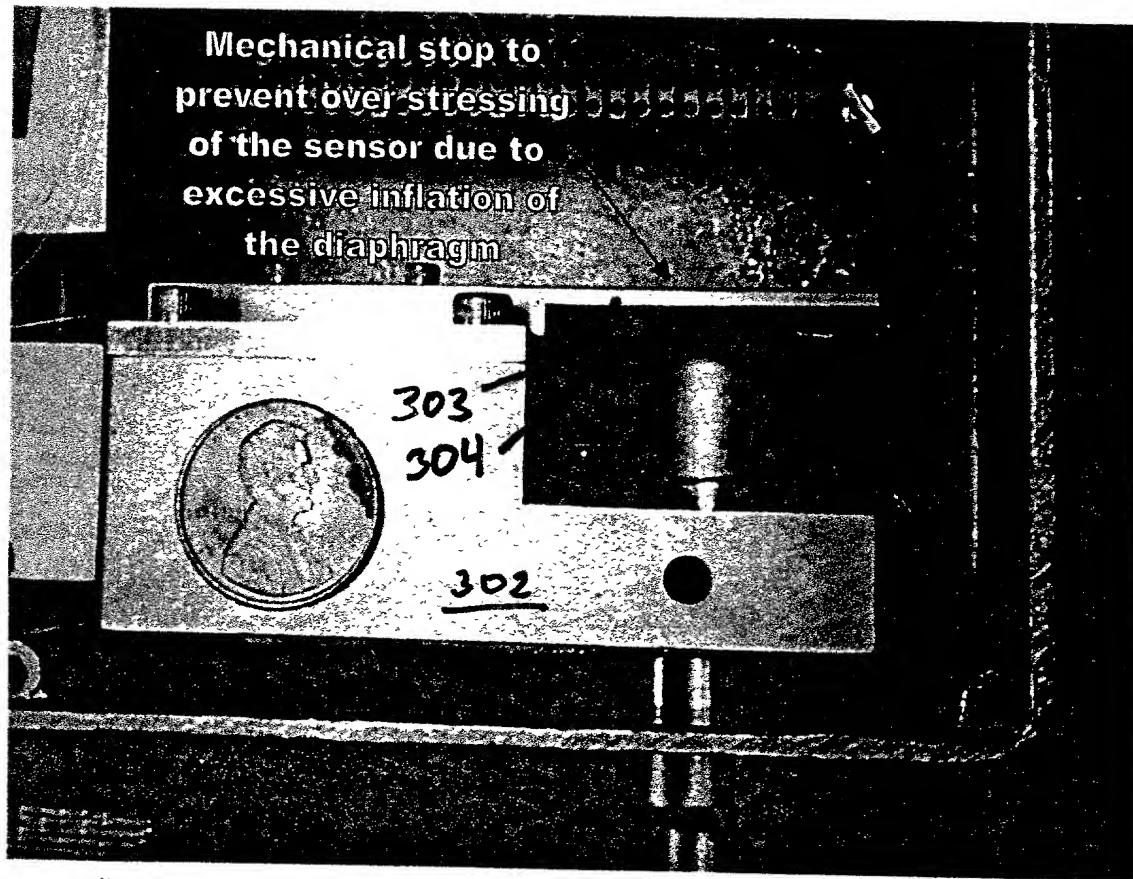


Figure 24 Mounted sensor and diaphragm

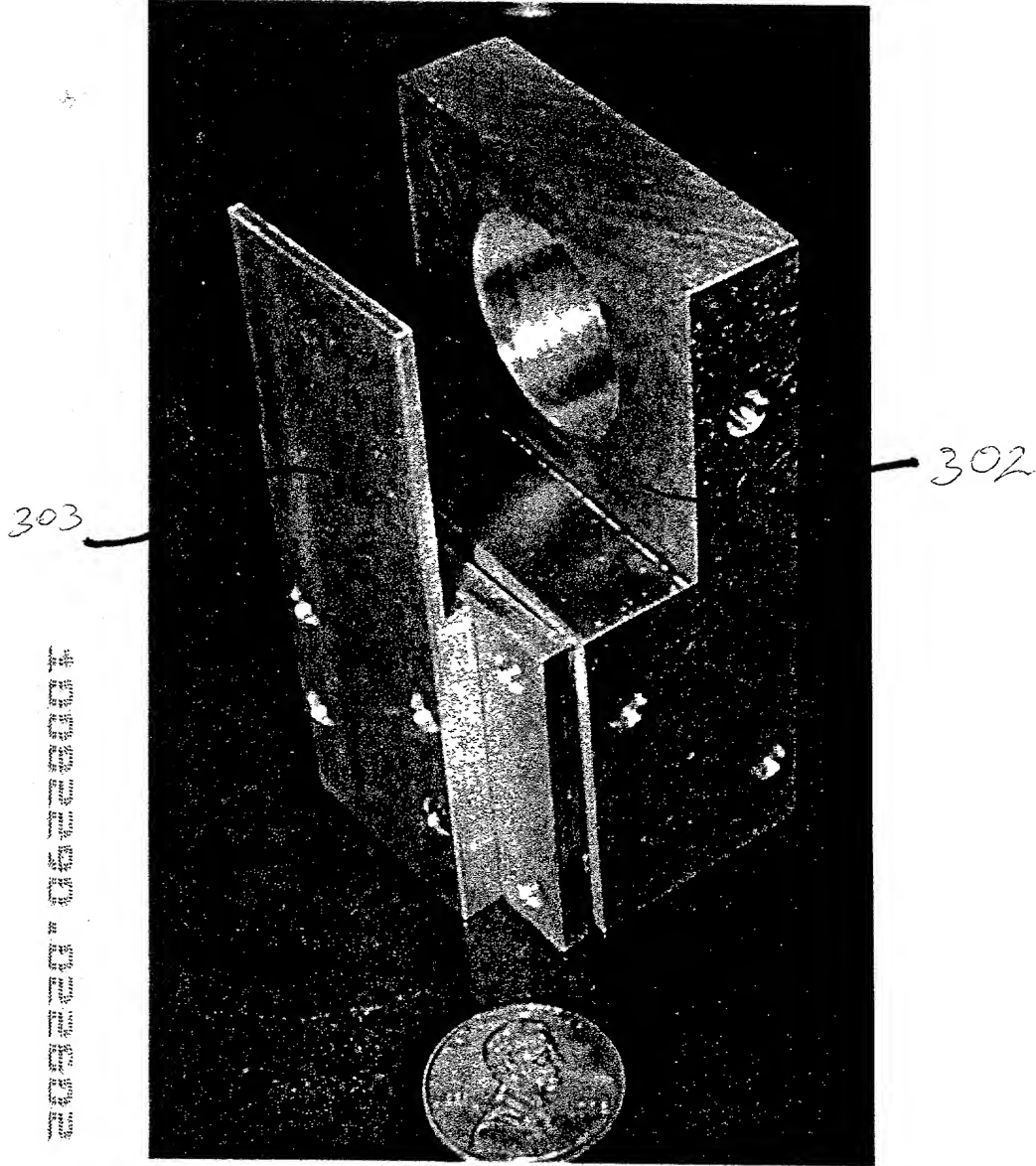


Figure 1 Sensor mount